

# EUROPEAN PATENT OFFICE

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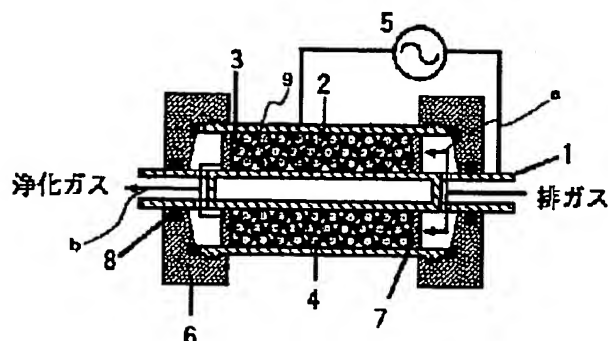
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APPLICANT : AGENCY OF IND SCIENCE &  
TECHNOL;

INVENTOR : KUSHIYAMA AKIRA;

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TITLE : METHOD OF PLASMA DECOMPOSING  
VOLATILE HARMFUL MATERIAL AND  
PLASMA DECOMPOSING DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To enable effectively decomposing volatile harmful material-containing gas into harmless gas when decomposing volatile harmful material in waste gas into harmless material by plasma by making porous adsorbent coexist with ferromagnetic body material between electrodes in a reactor.

SOLUTION: In a cylindrical plasma decomposition device, between an inner electrode 1 and an outer electrode 2, porous adsorbent 3 and ferromagnetic body material 4 are physically mixed and filled, and high voltage is applied to between both the electrodes 1, 2 by a power source 5. Waste gas introduced into this decomposition device is introduced into a plasma treatment chamber 9 in which the porous adsorbent 3 and the ferromagnetic body material 4 are mixed and filled through a hole of a pressing plate 7 on the inlet side in a flow passage shown by the arrow (a) and volatile harmful material in waste gas is subjected to decomposition treatment, and after that, purified gas is discharged as a flow (b) from a hole of a pressing plate on the outlet side. As the porous adsorbent 3, one of  $Al_2O_3$ ,  $SiO_2$ , zeolite, and the like having  $10-750\text{ m}^2/\text{g}$  specific surface area is used.

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